UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF:
WU-16J

MEMORANDUM TO FILE

Date: December 2, 1997

Subject: Detroit Coke Corporation Environmental Justice Demographic Analysis

From: Allen Melcer, Geologist

To: Administrative Record for the Detroit Coke Corporation Underground Injection Control Permitting Action

This demographic analysis is being performed as part of the permit application review process in order to determine whether the Detroit Coke Corporation ("Detroit Coke") facility is in a low income or minority area for which environmental justice (EJ) may be a consideration in any Federal action. The facility, located at 7819 West Jefferson, Detroit, Michigan, is in southwest Detroit, adjacent to the Zug Island industrial complex. The procedures utilized in the following analysis are found in the United States Environmental Protection Agency (EPA) Region 5 "Draft *Region 5 Interim Guidelines for Identifying and Addressing a Potential Environmental Justice Case"* dated October 30, 1997 (henceforth known as "the guidelines").

Background

Detroit Coke was a coking facility that produced waste ammonia liquor (WAL) as a by-product of the coking of coal. The wastestream was disposed of into three on-site Class I hazardous waste injection wells completed in the Munising Formation. The Detroit Coke disposal well #1 (MI-163-1W-0003) was drilled and completed in June of 1969. Waste disposal well #2 (MI-163-1W-0004) was drilled in January of 1976. A third well, waste disposal well #3 (MI-163-1W-0005) was drilled in September, 1978.

In September of 1990, the Detroit Coke facility was closed down. Since that time, the three injection wells have been used for disposing of ammonia liquor left in tanks at the time of shut down, and for disposing of rainwater which collects on site and in diked areas. At this time no fluids, other than those used for testing purposes, are being disposed of into the wells. In June, 1995, waste disposal well #1 was plugged. The Underground Injection Control (UIC) re-permit

applications currently under review are for Wells #2 and #3 only.

On March 26, 1996, Detroit Coke submitted an application to Region 5 for renewal of their two UIC permits. The permits are for two existing deep injection wells to allow for the disposal of potentially hazardous contaminated waters as part of the Corrective Action clean-up of the site and to continue disposal of rain water that collects on site. On August 15, 1996, Detroit Coke submitted an addendum to the application requesting that the new permits, if issued, authorize the use of the wells for commercial disposal of liquid non-hazardous wastes. Detroit Coke has applied for hazardous waste disposal permits in case the contaminated ground water is hazardous. If the permits are granted they will be for hazardous waste injection, however, the permits will restrict commercial disposal to non-hazardous fluids only.

Although Detroit Coke is applying for hazardous waste disposal permits, if the permits are granted, they must still apply for and receive an exemption to the land disposal ban before they can commence injection of hazardous waste. The land ban petition review and approval process typically takes 18 months to 2 years. They are currently applying for commercial disposal of non-hazardous wastes only, however, they can request authorization for commercial disposal of hazardous waste in the future. The company's statements on whether they will submit a petition for exemption from the land disposal ban and apply for commercial hazardous waste injection in the future have been indeterminate.

Two Mile Radius

A circle with a radius of two miles around the existing injection wells was chosen for the demographic analysis.1 As described below, two miles was used for the demographic analysis because of the nature of injection well operations and the effect it has on the surrounding community.

Justification for Use of Two Mile Radius of Investigation

Assuming that the injection wells will be operated in accordance with regulations, then the potential negative impacts of a commercial injection well facility on the community include; 1) odors, 2) pollution, 3) noise, 4) increased vehicular traffic, and 5) decreased property values.

1) Odors and Air Pollution - In an injection well operation, dedicated pipelines are used to bring the injectate from the storage tanks to the wellhead. There may be minor air emissions from vents on the storage tanks, however, the expected commercial wastes are mostly water and would not be very volatile. This minor venting occurs with almost all storage tanks and, based on past experiences, would not subject the community to odors or air pollution beyond two miles from the site.

2) Surface and Ground Water Pollution - There will be no authorized discharges to surface water bodies or aquifers containing drinking water because the deep wells will emplace the injectate into a rock formation more than 3200 feet below ground surface. In issuing UIC permits, the EPA is making a technical judgement that the injected wastes will be contained in the designated injection zone and will not migrate into drinking water aquifers. As for potential spills from surface units, although regulation of these units is outside the jurisdiction of the UIC program, if

the units are permitted by the authorized agency, again a technical judgement is being made that the surface units meet all technical standards and that spills from these units will be contained and not contaminate surface or ground waters. Based on the assumption that the injection wells and all surface units meet permitting standards, there will be no degradation of drinking water from this project.

3) Noise - As for the noise associated with this project, it would be generated by the injection pumps and the trucks bringing liquid waste to the site. Neither the pumps nor the on-site truck activity would be heard more than two miles from the site. The trucks moving through the neighborhood to get to the site will contribute some noise. Consideration of truck traffic noise within two miles of the site is valid because the interstate and main arterial streets are within two miles of the site. Thus, any increased noise from trucks related to this project would be heard within two miles of the site. Once the trucks reach the interstate or main arteries, the truck noise will be indistinguishable from the background traffic noise.

4) Increased Vehicular Traffic - Commercial use of the wells will require trucks to bring the non-hazardous liquid waste to the site. The site is in a heavily industrialized area with close access to interstates and arterial streets. The area in which trucks will have to leave the interstate or arterial street and travel through the neighborhood to reach the site is within two miles of the site.

5) Decreased Property Values - The site is in a heavily industrialized area. There are several larger industrial facilities throughout the area, most notably on Zug Island, with visible emissions, noise and odors. These large facilities have such a great effect on property value that the effect of the Detroit Coke facility on property values beyond two miles from the site would be negligible.

Demographic Analysis

The following table is based on 1990 STFA data for census blocks within 2 miles of the Detroit Coke facility (see attached map).

Total Population	Minority	Poverty	Native American	Low Income	Children
39,602	37.3%	37.4%	1.1%	61.3%	12.2%

Note: Low income is defined as when the household income is less than double the poverty level. Minorities are considered everyone but white non-hispanic.

For the State of Michigan, 28% of the population is low income and 18% is minority.

	Minority	2 Times Minority	Low Income	2 Times Low Income
State of Michigan	18%	36%	28%	56%

The draft guidelines give the following criteria for identifying an EJ area:

1. The low income or minority population percentage of the block group in which the case is located is greater than or equal to 2 times the state low income and minority percentages; or

2. a) The low income or minority population percentage of the block group in which the case is located is between the state and 2 times the state low income and minority percentages; and

   b) The community has identified itself or the case as having environmental justice issues or there is reason to believe that environmental justice issues are present.

Using these criteria, the minority population within two miles of the Detroit Coke site is 37.3% which is greater than two times the state minority percentage, and the low income population is 61.3% which is greater than two times the state low income percentage. Based on the criteria given in the guidelines, the Detroit Coke permitting action qualifies as an EJ case.

Future Actions

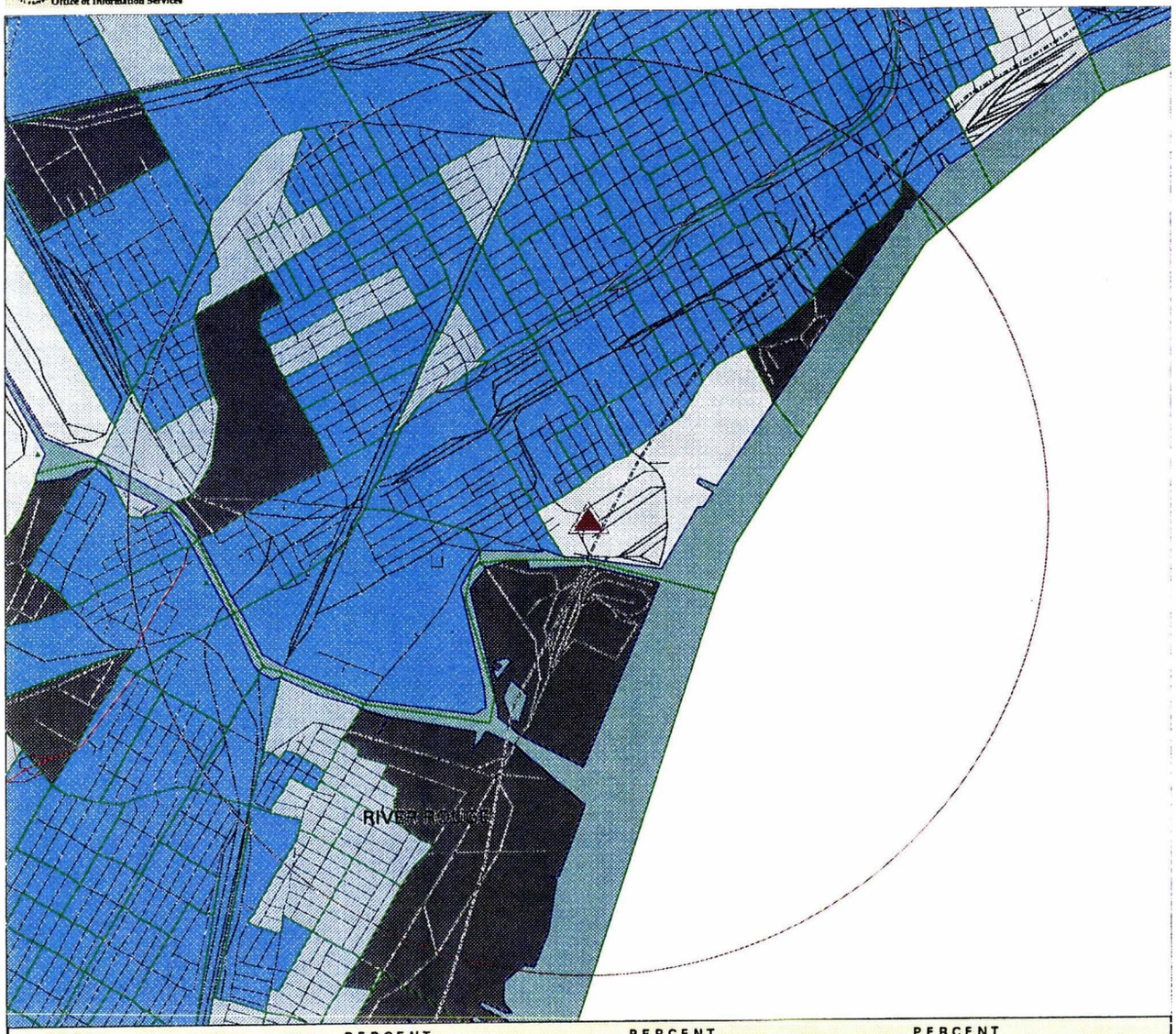
1. Share this analysis with the Region 5 EJ team, the UIC branch enforcement personnel and the Region 5 Office of Regional Counsel.

2. Follow the Environmental Justice and Permitting Protocol contained in the draft guidelines in processing the Detroit Coke permit application.

Region 5
Office of Information Services

Detroit Coke

Census Blocks within Two Miles of Detroit Coke



- Facility
- Interstate Highway
- Primary Road
- County Road
- Neighborhood Road
- Railroad
- Perennial Stream
- Drain or Intermittent Stream
- County Border
- Block Group Boundary

Region 5 EJ Guidelines

- Low Income and Minority Less than or equal to State Percentage
- Low Income or Minority Greater than State Percentage but less than twice State Percentage
- Low Income or Minority Equal to or greater than twice State Percentage
- Uninhabited or No Data
- Water

Population are considered in the low income group when the household income is less than double the poverty level. Minorities are considered everyone but white non-hispanic.

The data are summarized at the block group level, from 1990 STF3A data.

TOTAL POPULATION 39,602	PERCENT MINORITIES 37.3	PERCENT POVERTY 37.4	PERCENT NATIVE POPULATION 1.1
PERCENT LOW INCOME 61.3	PERCENT CHILDREN 12.2	PERCENT NO ENGLISH 5.8	PERCENT HOUSING PRE 1980 99.6

Sta ow Income Population Percentage: 28 State Minority lation Percentage: 18

Briefing paper on the
Environmental Disposal Systems, Inc. Draft UIC Permits
Romulus, Michigan

Current Status

On August 22, 1997, draft permits were approved for two commercial hazardous waste deep injection wells (#1-12 and #2-12) in Romulus, Michigan (Romulus is outside Detroit, and encompasses the Detroit Airport). The public comment period will begin on September 4, 1997, and end on October 24, 1997. A public hearing is scheduled for October 9, 1997. A crowd of 400-500 is expected, and a large number of written comments is anticipated.

The facility will take hazardous waste from a variety of sites in the US and likely Canada, and inject the waste into a confined formation approximately 3900 feet below the surface. Besides the UIC permits for the injection wells, the site will also need a permit from the MDEQ Hazardous Waste Division (RCRA). These will be the first commercial hazardous waste wells in Michigan, the first directly permitted by the UIC Branch, and the second in the entire Region (Chemical Waste Management in Vickery, Ohio has the other facility).

Background

EDS first submitted a permit application for a commercial hazardous waste deep injection well in Romulus, Michigan in late 1990. The permit was issued in October, 1991, with little public comment. In 1993, the well, #1-20, was drilled and almost completed. At that time, significant public outcry developed, and the City of Romulus filed suit against EDS for zoning violations. The well has remained in litigation since, all work stopped due to an injunction.

In May 1996, EDS submitted two more permit applications for two commercial hazardous waste deep disposal wells in a nearby parcel that is properly zoned. The new site is also in Romulus, Michigan. These applications, for the wells #1-12 and #2-12, have been under review by the UIC Branch since their submittal. There has been close coordination between the UIC Branch and the MDEQ Geologic Survey and Hazardous Waste Divisions regarding this site.

Issues

These projects have generated significant controversy since the drilling of the #1-20 well. Many of the issues have centered

DETROIT COKE COMMERCIAL INJECTION WELL OPERATION AND SITE CLEAN-UP, DETROIT, M

BACKGROUND

The Detroit Coke facility, located at the confluence of the Detroit and Rouge Island industrial complex. Detroit Coke was a coking facility that produced w of coal. The wastestream was disposed of into three on-site Class I hazardous Formation. The three wells were constructed and operated between 1969 and 199

In September of 1990, the Detroit Coke facility was closed down. Since that t disposing of ammonia liquor left in tanks at the time of shut down, and for di diked areas. In June, 1995, waste disposal well #1 was plugged.

On March 26, 1996, Detroit Coke submitted an application to Region 5 for renew (UIC) permits. The permits are for two existing deep injection wells to allow contaminated waters as part of the Corrective Action clean-up of the site and site. On August 15, 1996, Detroit Coke submitted an addendum to the applicati authorize the use of the wells for commercial disposal of liquid non-hazardous waste disposal permits in case the contaminated ground water is hazardous.

Although Detroit Coke is applying for hazardous waste disposal permits, if the receive an exemption to the land disposal ban before they can commence injecti applying for commercial disposal of non-hazardous wastes only, however, they c disposal of hazardous waste in the future.

CURRENT STATUS

The UIC permit applications are currently under review by Region 5. The City opposed to use of the wells for commercial disposal. The local ABC television proposed use of the wells. The facility is located in a low income, minority community. The city and community groups are redeveloping brownfield sites al redevelopment of the Detroit Coke site. These plans will not go through if th

RCRA CORRECTIVE ACTION

Detroit Coke is currently undergoing Resource Conservation and Recovery Act (R its UIC permits. On August 4, 1997, the U.S. EPA sent a Notice of Deficiency (RFI) Workplan. The facility is due to submit a response to the U.S. EPA by O will be approved and implementation of the RFI will begin by next spring.

One aspect of the investigation will be sediment sampling of the Detroit and R contaminants have been released from the site. During the week of October 20t Department of Environmental Quality will utilize the Great Lakes National Prog investigation of the river bottoms. The results of this investigation will be that Detroit Coke must perform for the Detroit and Rouge Rivers. Clean up of in implementation of the Detroit River Remedial Action Plan.

FUTURE ACTIONS

The EPA is planning a series of meetings with the public, elected officials, a explain the UIC permitting program and site clean up activities. The UIC perm consideration of the environmental justice aspects of the proposed action. Si schedule.

CONTACTS

Allen Melcer(UIC) 6-1498
Greg Rudloff(RCRA) 6-0455

around issues beyond the UIC program, such as the need for the wells, zoning, truck traffic, property values, and the potential importation of waste from Canada. Many of these issues will be dealt with under the MDEQ RCRA permit for the site. Numerous comment letters have been sent in to the UIC Branch in opposition to this site.

Environmental justice concerns have been raised somewhat by the public. The site was reviewed this summer, and does not have appear to have an EJ component. However, this issue will undoubtably be raised during the public comment period.

D-R-A-F-T

OFFICE OF PUBLIC AFFAIRS (OPA)
ENVIRONMENTAL JUSTICE
PUBLIC PARTICIPATION PROTOCOL

CHECKLIST FOR COMMUNITY INVOLVEMENT
FOR ENFORCEMENT CASES

ENVIRONMENTAL JUSTICE AND COMMUNITY INVOLVEMENT

PURPOSE

The purpose of this protocol is to provide guidance to the Office of Public Affairs when assisting communities affected by environmental injustice. This check list serves to ensure that residents are involved in the public participation process and equitably informed on issues affecting their communities.

____ ***COMMUNITY INVOLVEMENT PLAN***--Community interviews will be conducted to identify key members of the affected public, their concerns, and the best means to involve and communicate with the public. A Community Involvement Plan (CIP) will be developed from the interviews which will identify the types of community involvement activities to be conducted.

____***IDENTIFICATION OF STAKEHOLDERS***--Through community interviews OPA will identify Environmental Justice stakeholders and provide them the opportunities to offer input into decisions that may impact their health, property values and lifestyles. Some of those individuals would include:

-- Business and trade organizations
-- Civic/public interest groups
-- Environmental organizations
-- Grassroots/community-based organizations
-- Homeowner and resident organizations
-- Indigenous people
-- Industry
-- Local and State governments
-- Media/Press
-- Religious groups
-- Tribal governments
--Universities and schools

____***IDENTIFY STAKEHOLDER INTEREST***--Identify key stakeholders (early on) in the community. Learn as much as possible about those stakeholders and their concerns through personal consultation, phone or written contacts. Identify ways to communicate pertinent information to the community ie language and cultural barriers, technical background, literacy, access to respondents, privacy issues and preferred types of communications.

____***PUBLIC MEETINGS/AVAILABILITY SESSIONS***--Public participation will be encouraged through public meetings and availability sessions. OPA encourages active public participation. Public meetings will advertised in

the local paper of the affected community. Every advertisement will have a phone number and or address for communities to find out about pending meetings, issues, enter concerns or to seek participation or add items to agenda. A press release will also be issued to the local media.
The ***Press Team*** will be accessible to the media to answer questions about specific EJ issues. The ***Press Team*** will assist with press conferences and media events.

When scheduling public meetings OPA will ensure that time frames do not conflict with work schedules, rush hours and other community commitments that may decrease attendance. Where appropriate translators will be provided for limited-English speaking communities.

____***PUBLIC MEETING FOLLOW-UP***--After holding a public meeting/availability session, establish and maintain a procedure to follow up with concrete action to address the communities' concerns. For example letters, fact sheets, phone calls and site visits.

____***WORKSHOPS/SEMINARS***--Hold workshops , seminars and other meetings to develop partnerships between agencies, workers and community groups. Formation of cooperative agreements would be beneficial to all parties involved. (As needed)

____***FACT SHEETS/ BROCHURES/PRESS RELEASES***-- The ***Press Team*** will be responsible for the editing of all Environmental Justice Brochure materials and the issuance of all EJ press releases. At major milestones as it relates to site specific activity the ***OPA EJ Window*** will review and distribute all EJ Team Fact Sheets. All information will be made available to the public in a timely manner.

____***GRAPHICS/POSTERS /EXHIBITS/SOFTWARE MATERIALS***--OPA will assist in exploring other methods to increase participation of Environmental Justice stakeholders including:

-- ***Posters and Exhibits***
-- ***Participation in Civic and Community Activities***
--***Public Database and Bulletin Boards***
--***Surveys***
--***Telephone Hotline***
--***Training and Education Programs, Workshops and Materials***
--***Internet Feedback***

____***ENVIRONMENTAL EDUCATION***--**Grant Writing Support**--A Grant Writing workshop can be provided. (IF NEEDED) This workshop will be co-presented by the Environmental Education Program and the Environmental Justice Program. The purpose of the workshop would be to present tips for developing competitive grant applications and to provide an overview of the environmental justice and environmental education small grant program.

____***COMMUNITY ADVISORY GROUPS (CAG)***-- Establish site-specific Community Advisory Groups where there is sufficient and sustained interest. The CAG will provide a setting in which representatives of the local community can receive up-to-date information about the status of cleanup activities, as well as discuss community views and concerns about the cleanup process from state and federal agencies. The CAG should utilize local expertise for technical and science reviews. The CAG will be a public forum in which all affected and interested parties can have a voice and actively participate in the process. (As needed)

____***LOCAL INSTITUTIONS AND FOUNDATIONS***--Contact , as appropriate, historically Black Colleges a Universities (HBCU) and Minority Institutes (MI), Hispanic Serving Colleges and Universities (HSCU) and I

Centers to network and form community links that they can provide.

From: DANIEL COZZA
To: crandon
Date: 3/7/97 11:06am
Subject: govt. conf. call

Next governmental conference call is scheduled for Tuesday, 3/11 at 9:00am. I have room 1713 reserved. Call in number is 312-563-5531. Agenda is as follows:

* Air quality Meeting
* Groundwater Modeling
* EIR Comments Update
* Environmentally Responsible Mining Conf Summary
* Public Information on Project Review Status
* Open Discussion

Feel free to join me in Room 1713.

Minutes

COPPER RANGE CO. ENVIRONMENTAL ANALYSIS WORKGROUP

Stakeholders Telephone Conference Call 4
1 p.m. Central Time, February 27, 1997
(prepared by Don de Blasio)

Participating:

Jodi Traub, Dave Werbach, John Haugland, Amy Pelka, John Taylor, Harlan Gerrish, Mary Pat Tyson, Don de Blasio, EPA; Mike Bertucci, United Steel Workers; Dorothy Bussiere, Ontanogan Co. Econ Dvlpmnt; Bill Cannon, Laurel Woodruff, USGS; Eric Dudson, Jochen Tilk, Mark Semenoff, CRC; Ann Kmiecik, Bad River; Gary ~~Wachner~~Wockner, Anne McCammon-Soltis, GLIFWC; Scott Ross, MDEQ; Janet Avery, AWAKE; Eric Uram, Sierra Club; Laura Day Rose, NWF; Vanessa Dietz, Daily Mining Gazette; Jan Tucker, Ironwood Daily Globe

Representatives from the Scoping workgroups updated participants on activities:

- **Economic Workgroup** - John Haugland / workgroup is looking at four categories: Background on the copper market, to be able to put economic circumstances in context; community, including history, current jobs, importance and meaning of potential new jobs, potential skills needed ; impacts of mining on the community, including taxes and housing; and potential environmental , including costs of prevention. The economic effects on tribes will be considered as a separate issue. The findings of the workgroup will depend partly on findings of the other workgroups.

  The workgroup will gather as much material as possible and allow a contractor do the analysis, based on a priority of what is most important.

- **Environmental Workgroup** - Amy Pelka / focus is on 2 scenarios: the transportation of waste and possible accidents; the possibility of the release of brine solution after the mine closes. A major concern is ensuring that conceptual models are calibrated between the contractors, PRC and SAIC , so that data are comparable. Workgroup want to assure that exposure assumptions are correct for the geographic area. The workgroup is looking at ecological concerns, but the bias will be on human health.

  Eric Dudson, CRC, asked how contractors were chosen. Dave Werbach responded from contracts already in place with companies holding the expertise needed for these evaluations.

- **Tribal Workgroup** - John Taylor / Will be using a separate consultant to be hired under a grant to GLIFWC. Several consultants are being considered.

  Mike Bertucci, United Steel Workers, expressed concern that a GLIFWC consultant would present a single-sided evaluation. Taylor responded that EPA will oversee the contractor to ensure a fair evaluation is made. It was also pointed out that the USEPA will write any reports and make the determinations. The GLIFWC consultant will be tasked with gathering the data needed by the SAIC consultant and the USEPA.

▸ **Transportation Workgroup** - Harlan Gerrish / No meetings have been held; trying to arrange conference call for March 5, which would be first with Gerrish as workgroup leader.

Dudson said he had sent transport information to Werbach, who responded that data has been passed on to Gerrish.

All workgroup representatives said minutes from their meetings would be on Copper Range Home Page.

▸ **Update on "Final Scoping Document"** - Werbach / Final document was approved February 21. The document is to be a blueprint for what EPA will be doing. The final version is to be put on Home Page as soon as possible, but hard copies have been sent to repositories. Those needing hard copy can call Werbach (312/886-4242).

▸ **Open forum**

- Janet Avery, AWAKE, expressed concern that a USGS report would be ready so quickly. Werbach said that is because USGS is ~~reviewing~~starting with the work already done by MDEQ, and determing if the MDEQ work is sufficient.- If additional research is needed, then USGS will perform the work. USGS has already performed additional modelling work. Bill Cannon, USGS, said his Agency has 5 persons working on data. They will evaluate the validity of data, and examine issues such as predictions of chemical interactions between the sulfuric acid and wall rock; mine fill under any scenario; and whether seismicity would be a factor in the area.

  In Spring, USGS will do an additional investigation of the White Pine fault and how far the line extends.

- Laura Day Rose, National Wildlife Federation, expressed concern about possible gaps in information. Werbach said EPA would determine if needed material is missing. If there is a gap, the data will be collected, he said.

Next call: 1 p.m. March 13, 1997

PRELIMINARY WORKING DRAFT

TALKING POINTS FOR VAL ADAMKUS' ADDRESS TO CONGRESSIONAL BREAKFAST ON GREAT LAKES RESEARCH

THANK YOU FOR THE OPPORTUNITY TO SPEAK TO YOU TODAY ON BEHALF OF THE GREAT LAKES community. THE GREAT LAKES COMMUNITY is comprised of a WIDE-RANGING AND diverse GROUP OF STAKEHOLDERS INCLUDING OUR LOCAL, STATE, TRIBAL AND FEDERAL PARTNERS AS WELL AS THE INDUSTRIAL AND ENVIRONMENTAL COMMUNITY.

THE GREAT LAKES NATIONAL PROGRAM OFFICE IN CONJUNCTION WITH OUR PARTNERS IS EMBARKING ON BASIN-WIDE INITIATIVES which CONSOLIDATE THE

many SCIENTIFIC endeavors AND PROVIDE ENVIRONMENTAL MANAGERS WITH CRITICAL INFORMATION TO MAKE SCIENCE-BASED DECISIONS FOR PROTECTING THIS UNIQUE AND VALUABLE RESOURCE.

TWO EXAMPLES OF THIS ARE THE "CANADA-UNITED STATES STRATEGY FOR THE VIRTUAL ELIMINATION OF PERSISTENT TOXICS SUBSTANCES IN THE GREAT LAKES BASIN" (BINATIONAL STRATEGY)AND THE LAKE MICHIGAN MASS BALANCE PROJECT.

IN 1994, THE USEPA GREAT LAKES NATIONAL PROGRAM OFFICE, IN CONJUNCTION WITH ITS STATE, TRIBAL, INDUSTRIAL AND ENVIRONMENTAL PARTNERS BEGAN WORK ON THE BINATIONAL STRATEGY, PURSUANT TO THE DIRECTIVES OF THE GREAT LAKES WATER QUALITY AGREEMENT. THE STRATEGY:

- TARGETS A COMMON SET OF TOXIC SUBSTANCES FOR PERCENTAGE REDUCTIONS WITHIN A 10-YEAR TIME FRAME; VIRTUAL ELIMINATION OF THESE SUBSTANCES IS THE LONG-TERM GOAL.

- RELIES ON EXISTING REGULATION AND AUTHORITIES TO ACHIEVE REDUCTIONS; ALSO ENCOURAGES POLLUTION PREVENTION MEASURES

- SUGGEST SPECIFIC ACTIONS TO BEGIN ACHIEVING REDUCTIONS.

AN UNDERLYING TENET OF THIS STRATEGY IS THAT THE GOVERNMENTS CANNOT BY THEIR ACTIONS ALONE ACHIEVE THE GOAL OF VIRTUAL ELIMINATION; ALL

SECTORS OF SOCIETY MUST PARTICIPATE AND COOPERATE TO ENSURE SUCCESS.

AT THIS TIME, THE STRATEGY IS EXPECTED TO BE SIGNED BETWEEN THE TWO COUNTRIES IN EARLY APRIL AT A BILATERAL SUMMIT MEETING BETWEEN PRESIDENT CLINTON AND PRIME MINISTER CHRETIEN OF CANADA.

THE LAKE MICHIGAN MASS BALANCE PROJECT IS A MULTI YEAR LAKEWIDE MONITORING AND MODELING PROGRAM DESIGNED TO ADDRESS MANAGERS QUESTIONS REGARDING THE EFFECTS AND CONTROL OF VARIOUS PERSISTENT TOXIC CONTAMINANTS WITHIN THE LAKE MICHIGAN ECOSYSTEM. THIS PROJECT INVOLVES THE COORDINATED EFFORTS OF NOAA, US FWS, USGS, US EPA, THE STATES OF WISCONSIN, MICHIGAN, ILLINOIS AND INDIANA AND ENVIRONMENT CANADA, AS WELL AS

MANY PRESTIGIOUS UNIVERSITIES THROUGHOUT THE COUNTRY. THESE MODELS WILL RELATE THE SOURCES OF CHEMICALS TO THEIR CONCENTRATIONS IN AIR, WATER, SEDIMENT, AND BIOTA, AND ARE ONE OF THE ONLY TOOLS AVAILABLE THAT ALLOW THE ABILITY TO INTEGRATE THE COMPLEX FATE AND TRANSPORT PROCESSES, AND THE RELIABLE ABILITY TO PREDICT FUTURE CONDITIONS UNDER A VARIETY OF ALTERNATE MANAGEMENT SCENARIOS. AFTER COMPLETION OF THESE DEVELOPMENTAL MODELS FOR LAKE MICHIGAN THE APPROACH CAN THEN BE UTILIZED FOR OTHER GREAT LAKES.

CURRENTLY WE ARE IN THE PROCESS OF ENGAGING MEMBERS OF THE GREAT LAKES COMMUNITY IN THE IDENTIFICATION OF COST SAVINGS STRATEGIES TO

SHARE INFORMATION AND FACILITIES, AND DEVELOP PARTNERING APPROACHES TO THE CONDUCTING OF RESEARCH.

FOR EXAMPLE WE ARE HOSTING A MEETING THIS WEEK WITH ALL RESEARCH VESSEL OPERATORS IN THE GREAT LAKES WITH SHIPS OVER 30 FEET TO DISCUSS WAYS TO SHARE OUR VESSEL'S FACILITIES AND EXPERTISE, AND ULTIMATELY CONSERVING RESOURCES.

RESEARCH HAS ALSO PLAYED A PROFOUND ROLE IN DEVELOPING COMPELLING ARGUMENTS FOR TOXIC SUBSTANCE REDUCTION IN THE GREAT LAKES. FOR EXAMPLE EARLY IN THE 1980'S TOXAPHENE WAS DISCOVERED IN TISSUES OF LAKE TROUT OBTAINED FROM LAKE SISKWIT ON ISLE ROYALE. THIS LAKE IS 60 FEET ABOVE THE LEVEL OF LAKE SUPERIOR AND HAS

NO DIRECT INPUTS. THE ONLY SOURCE OF TOXAPHENE WAS FROM THE ATMOSPHERE. IT WAS SUSPECTED THAT THE ORIGIN WAS FROM THE COTTON FIELDS IN THE SOUTHERN U.S. AS A RESULT OF THIS RESEARCH, A U.S. BAN ON THE USE OF TOXAPHENE WAS ISSUED IN THE MID-1980'S.

ANOTHER EXAMPLE IS GREAT LAKES HUMAN HEALTH RESEARCH HAS REPORTED AN ASSOCIATION BETWEEN THE CONSUMPTION OF CONTAMINATED GREAT LAKES FISH AND BODY BURDENS OF PERSISTENT TOXIC SUBSTANCES. NEUROBEHAVIORAL AND DEVELOPMENTAL EFFECTS HAVE BEEN OBSERVED IN NEWBORN INFANTS ON MOTHERS WHO CONSUME GREAT LAKES FISH. RECENT EFFORTS HAVE HARMONIZED THE METHODOLOGICAL PROTOCOLS ACROSS THESE AND OTHER STUDIES. THIS WILL ALLOW A

BASIN WIDE ANALYSIS AND EVALUATION OF HEALTH EFFECTS POTENTIALLY ASSOCIATED WITH THE CONSUMPTION OF CONTAMINATED GREAT LAKES FISH. RECOGNIZING THAT OUR LEVEL OF COOPERATION AND COORDINATION IS AT AN OPTIMUM LEVEL WE ARE FACED WITH ALARMING LEVELS OF BUDGET CUTS THAT HAVE HIGHLY ERODED THE LONG TERM RESEARCH EXPERTISE IN THE GREAT LAKES. NOT ONLY HAVE OUR FEDERAL LABORATORIES AND PROGRAMS BEEN GUTTED BUT MUCH OF THE GRANT DOLLARS THAT WE SHARE WITH OUR UNIVERSITIES AND NONPROFIT ORGANIZATIONS HAVE BEEN SEVERELY CURTAILED. THESE GRANT DOLLARS PROVIDE FOR OUR FUTURE SCIENTISTS AND SERVE TO EDUCATE OUR PUBLICS TO BECOME ACTIVELY INVOLVED IN RESOURCE PROTECTION AND ENHANCEMENT. A 1995 STUDY CONDUCTED BY THE COUNCIL OF GREAT LAKES

RESEARCH MANAGERS CONDUCTED A SURVEY OF MAJOR GREAT LAKES RESEARCH INSTITUTIONS. THEY FOUND THAT RESEARCH FUNDING HAD PEAKED IN 1994 AND WAS PROJECTED TO DECLINE BY AS MUCH AS 50% BY 1997. SIMILARLY SALARY DOLLARS AVAILABLE ALSO PEAKED IN 1994 AND WERE PROJECTED TO DECREASE BY AS MUCH AS 35% BY 1997. THEY NOTED THAT IT TAKES 10 YEARS TO TRAIN AND DEVELOP EFFECTIVE RESEARCHERS IF ACCUMULATED EXPERIENCE OF ESTABLISHED RESEARCHERS IS AVAILABLE. IF EXPERIENCED RESEARCHERS ARE GONE IT WILL BE VERY DIFFICULT TO REPLACE THEM.

I IMPLORE YOU TODAY TO RECONSIDER THIS VALUABLE GREAT LAKES RESOURCE THAT CONTAINS 18% OF THE WORLDS FRESHWATER, AND ASK THAT YOU INCREASE THE

RESOURCE BASE TARGETED TOWARD THIS MULTINATIONAL AND MULTIMEDIA ECOSYSTEM-BASED RESEARCH AND MANAGEMENT EFFORTS. THROUGH OUR EFFORTS WE CAN PROVIDE FOR THE ENHANCEMENT AND RESTORATION OF THIS GREAT LAKES NATURAL WONDER WHILE EDUCATING OUR CHILDREN AND PROVIDING A NATURAL LABORATORY FOR FUTURE SCIENTISTS!